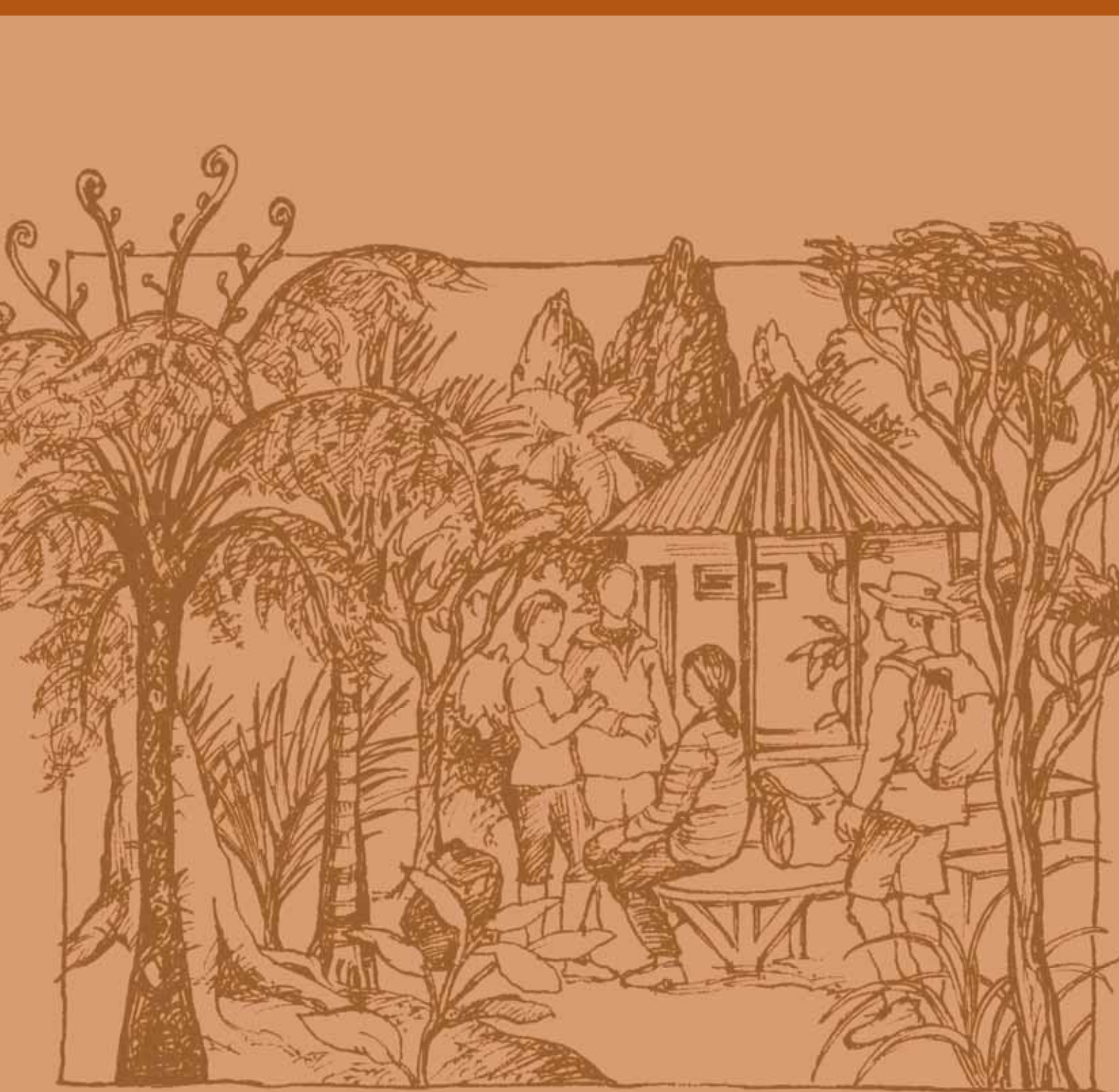




Waitakere
Agrichemical Reduction Policy



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1. Introduction

Background and Vision

Waitakere City Council became an eco city in 1996 and since then has taken the lead in the Auckland region with regard to many environmental issues. Agrichemical reduction is one of the many areas that the local community and Council are concerned about, and this policy has been developed in response to those concerns.

Waitakere City Council manages 568 parks and 989 kilometres of roads, most of which require weed and pest management. The historical method for controlling these pests has been the use of agrichemicals, e.g. herbicides and insecticides etc, as this is often the most effective method of management and uses the least resources.

Many Waitakere residents are sensitive to the presence of chemicals in their environment, and the use of agrichemicals close to private property can lead to allergic reactions as well as some skin and lung irritations. Some agrichemicals can also accumulate within the environment, particularly soil, and lead to toxicity to animals. Some people are also concerned about widespread use of these chemicals and their effect on the environment.

All of these issues are considered within this policy, with the purpose of developing a policy and action plan that can reduce the toxicity of agrichemicals used in Waitakere parks and open space, the total amounts of chemical used, as well as the total concentrations of agrichemicals used.

Overall, the goals of **providing and maintaining a healthy Waitakere environment** are promoted through this policy. While this policy relates specifically to public land the principles contained herein will also be promoted to private property.

VISION

A city with sustainably managed land that has no animal and plant pests; a healthy city where everyone can enjoy parks and open space.

healthy

Waitakere

Environment





BACKGROUND

The Environmental Management Committee resolved in 2001:

- ☒ That a Working Party be set up, incorporating a partnership between Community representatives and Council, both elected representatives and key Council Officers, to investigate, collate and report to Council on alternative methods of weed control, in time for consideration during the Annual Budget process.
- ☒ That it be a recommendation to Council that there be an increase in the Annual Budget for funding for trialling and application of alternative methods of weed control.
- ☒ That Councillors Fenton and Yates be Council representatives on the Working Party and that the Waitakere Community Board be invited to appoint a representative to join the Working Party.

Subsequently, the Working Party undertook to hold a number of meetings and workshops with a view to developing an agrichemical reduction policy for Council's use of agrichemicals in weed management.

The draft Procedures for Agrichemical Use was prepared in 2005 after discussions by the Working Party, however this has remained in a draft form. The scope of this policy is to guide the Council and their agents in the safe and best use of agrichemicals while protecting public assets from pests and their impacts.

LEGISLATIVE FRAMEWORK

There are a number of pieces of legislation that cover agrichemical use, as follows:

Hazardous Substances and New Organisms Act 1996 (HSNO)

The HSNO Act sets controls on transport, storage and disposal of hazardous substances that apply irrespective of location. The decision-making body is the Environmental Risk Management Authority (ERMA), which replaced the former Pesticides Board.

Resource Management Act 1991 (RMA)

The RMA enables local authorities to manage the effects of the use of hazardous substances in specific locations in relation to sensitive environments or conditions.

Proposed Auckland Regional Plan: Air, Land and Water

Section 5.5.38 sets the circumstances for the activity status for the discharge of agrichemicals to air, land or water.

New Zealand Standard 8409:1999: Code of Practice for the Management of Agrichemicals

Both the Proposed Auckland Regional Plan and Waitakere City's standard specifications for the use of agrichemicals in Waitakere City require compliance with this standard by contractors using agrichemicals.

Health Act 1956

The Health Act contains provisions in Sections 29-35 relating to health nuisances. The statutory nuisances listed relate to conditions that may be "offensive or injurious to health". Enforcement would normally be undertaken by a territorial local authority as set out in Section 23 of the Act.



Health and Safety Employment Act 1992

This Act provides mechanisms to assure the safety of workers and other persons who could become exposed to agrichemicals.

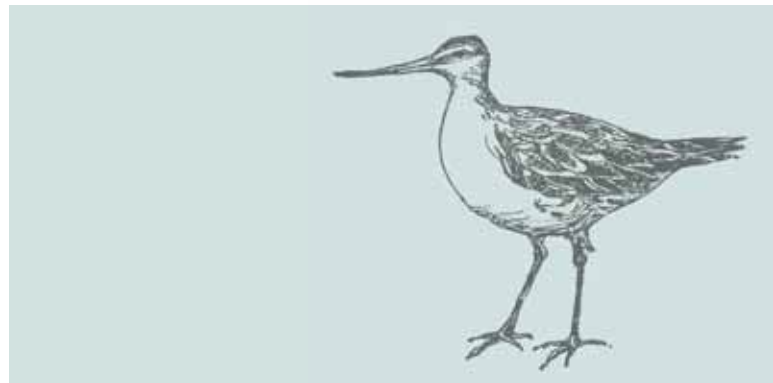
Also, the following initiatives have been taken:

Proposed National Risk Reduction Strategy for Pesticides

ERMA has proposed a process for development of a risk reduction strategy for pesticides. It is too early yet to determine whether it will specifically include agrichemical use by territorial authorities, or to determine the measures of risk reduction that will be used. However the proposed development of such a policy at a national level signals a significant shift in philosophical direction towards risk reduction, a shift that can be expected to permeate all areas in which pesticides are used. The impetus for this policy development comes in part from internal dissatisfaction with current approaches to pesticide usage, and in part from external pressures such as export market requirements and the Organisation for Economic Co-operation and Development (OECD) Pesticide Risk Reduction Project which is encouraging all member countries to develop risk reduction programmes.

National Spray Drift Advisory Group

This group has been formed by the Agricultural Compounds and Veterinary Medicines Group of the Ministry of Agriculture of Forestry, because of ongoing concerns relating to spray drift. The group has identified its aim as reducing the occurrence and effects of off-target pesticide deposition, with the ultimate aim of zero off-target deposition. It has identified the need for continuing development of methods for achieving this including non-use of pesticides, more targeted use, and improved application methods.



DEFINITIONS

The Waitakere City Weed Management Strategy directs the Council's approach only to the management of environmentally damaging plants. The term environmentally damaging plant is used to describe weeds that occur in natural areas of bush in parks, riparian margins and on rural roadsides, wetlands, and coastal ecosystems; the growth of which causes damage to the natural biodiversity of that particular environment. Waitakere City Council has a list of environmentally damaging plants and animals in its District Plan.

However, the City's parks, roadsides and other public open spaces are managed for a number of different purposes. A definition of a pest plant and animal in this context must be inclusive of the requirements for each of these purposes including horticultural, agricultural and environmental. Therefore, for the purpose of this document the following inclusive definitions apply:

Weed: is defined as a plant growing where it is not wanted.

Agrichemical: is defined as a substance that is applied in order to kill or inhibit the growth of a plant or animal. Examples of agrichemicals include herbicides, pesticides, fungicides, and poisons associated with animal pest control.

Pest Animal: is an animal that is not endemic to New Zealand and which has a detrimental effect on our native plants or animals.


2. Policy Statement



COUNCIL COMMITMENT

Council's pest management for the City is guided by the following goals:

- Pest eradication – reduce the number, extent and establishment of pests and potential pests while reducing the use of agrichemicals.

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- Agrichemical minimisation – avoid the use of agrichemicals wherever viable alternatives exist, and work towards eliminating the use of agrichemicals.
 - Agrichemical risk reduction – use the least toxic alternative in minimum quantities for effective control, with minimum exposure to the public and the least adverse off-target effects.

- Good land management – manage our land in a way that reduces pest invasion and requires the least maintenance, reducing our dependence on agrichemicals for pest control.

To achieve these goals Waitakere City Council will:

1. Reduce the impacts of agrichemicals used by the Council on health (ecological and human) while maintaining effective pest control through selection of methods, timing and sustainable management practices.
2. Develop, review and promote (with community and business) best practice methods for pest control, taking into account efficacy, cost and off-target effects.
3. Seek wide community consultation, input, education, promotion and understanding of the procedures.
4. Address assumptions and perceptions around pests and agrichemicals and recognise that there is a continuum of responses.
5. Work co-operatively with key land managers and contractors in and around Waitakere City.
6. Liaise and co-operate with Auckland Regional Council, WaterCare Services, research partners and Weedfree Waitakere Trust.
7. Trial alternative methods for land management to reduce the requirement for agrichemical use.
8. Maintain open communication with the public, and provide open and honest information regarding the current agrichemical use in the city.



3. Implementation and Guiding Principles

GOALS AND ASPIRATIONS

This Policy provides the overarching goals and aspirations of Waitakere City Council to achieve a reduction in its use of agrichemicals. Details are provided below that describe certain scenarios where opportunities for agrichemical use reduction may arise, however more detail will be needed for full implementation.

It is intended that all asset groups within Council will prepare a joint Agrichemical Reduction Implementation Plan, enabling a coordinated approach to reducing agrichemical use within the city.

GUIDING PRINCIPLES

PRRR Principle for agrichemical use, minimisation and risk reduction approach includes the following:

Prevent creating the habitat for pests to establish.

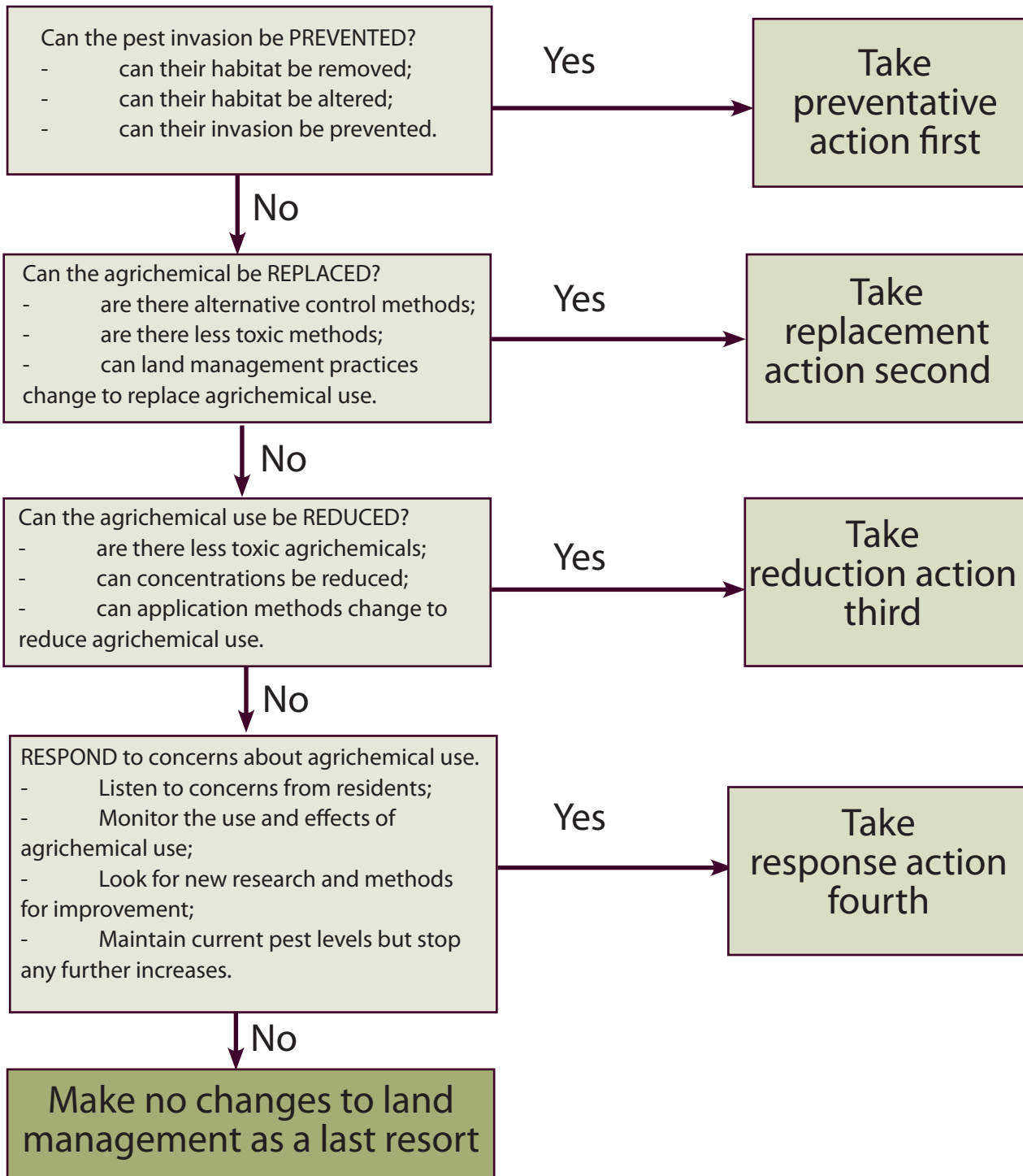
Replace agrichemicals with effective alternative control methods.

Reduce the use of agrichemicals to less toxic alternatives or contact methods rather than spray.

Respond to community interests.



4. Agrichemical Use Decision Tree





5. Current Operational Procedures

Since 1991, Waitakere City has adopted the following procedures for agrichemical use:

- Agrichemical use to be limited to areas where it is not practical, effective or economical to carry out manual or other methods of weed control;
- There is a list of approved agrichemicals which details specific uses, with constant review to replace chemicals with less toxic products as they become available, this list to be available to ratepayers;
- The least toxic, effective agrichemical is to be the first choice.
- Agrichemical application to be by suitably trained persons (contractors to be registered chemical applicators), in accordance with the HSNO Act regulations; currently contractors must have a Growsafe certificate to use agrichemicals, and must be supervised by someone with an Advanced Growsafe certificate;
- Signs to be erected in parks and reserves before spraying and to remain in place until the re-entry period specified for the relevant agrichemical used has been met;
- Intention to spray to be notified in local newspapers at least one week prior to use;
- Call Centre to be updated on spray use in parks and on roadsides. As from 2003, contractors are required to update the Call Centre daily for roadside spray programmes and twice-weekly for agrichemical use in parks;
- A No-Spray Register system is to operate enabling the resident to nominate an area and take responsibility for maintaining the road berm weed free;

- Drift control additives, spray guards and low-drift foam nozzles are to be used where possible to minimise the possibility of drift. Also, agrichemicals are only to be applied in appropriate weather conditions.
- Roadside frontages of all childhood education facilities will have mechanical control for berm areas and minimal agrichemical use for footpaths. Control will be undertaken outside of school hours.
- The Weed Hygiene Standard is included in Council contracts to limit the distribution of propagules due to Council works and maintenance activities.
- The adoption of the Auckland Regional Council guidelines for agrichemical use around stream areas and within riparian margins.

The following documents contain the contract specifications that apply to all Council weed management operations:

1. Standard Specifications for the Use of Agrichemicals in Waitakere City.
2. Advertising template .
3. Weed Hygiene Standard Specifications.
4. Approved List of Agrichemicals for Use in Waitakere City.
5. No Spray Register.





6. Action Plan

ALTERNATIVE METHODS

Council has been trialling and will continue to trial alternative methods to agrichemical use. The criteria for such trials will reflect the whole impact of the techniques including:

1. The human and environmental health impacts;
2. The effectiveness of control; and
3. The cost of the control.

Non-spray methods can be referenced in “Controlling Weed Species using Non-Spray Techniques” - Guidelines for land managers and weed control contractors, HortResearch.

Non-toxic methods for weed control can be referenced in “Clean & Green” by Chris Wheeler (Published by the Soil & Health Association of NZ Inc, 1999).

Trials will only be undertaken after research has first been carried out to see if the trials have been undertaken already by any other agencies within New Zealand. Only where no direct comparisons can be drawn shall new trials be undertaken in Waitakere. Examples of trials that have been and may be undertaken include:

- Trial multi-use parks for management without the use of agrichemicals, or with alternative agrichemicals, in order to assess effectiveness and cost. Trials have already been undertaken in Zita Maria Park, which was used as a trial site to determine the effectiveness and cost differential of weed management without the use of any agrichemicals.

The trial results demonstrated that hand pulling is eight times more expensive than herbicide, hot water application is fifteen times more expensive than herbicide, and gas burning is four times more expensive than herbicide.

New trials will be developed to trail different land management techniques to reduce the occurrence of weeds and plant maintenance requirements.

- Trial suitable low-growing species for water tables and swales to avoid these having to be sprayed. Also, use plant species that inhibit the growth of weeds and prevent the use of herbicide.

- Work with the Auckland Regional Council to trial biological control methods, such as the mistflower gall fly and fungus, and the gorse weevil.
- Trial alternative sportsfield land management practices such as drought resistant grasses to reduce maintenance in summer and which create an impenetrable mat for worms to reduce insecticide use.
- Trial a herbicide free park. A well visited park will be selected, and only manual or alternative pest control will be undertaken. This will then allow public reaction to be measured and recorded, as well as the overall costs of managing a park manually. Recommendations can then be made to the practicality of extending the network of Herbicide Free Parks.
- Trial alternative methods to maintaining paths edges. Currently edges are being sprayed with herbicide up to 150mm from the edge of the path. Trial alternative methods to control grass such as using organic herbicides which will stunt growth but not remove it entirely, or trial manual methods.

Trial a park where the historical grassland areas are not mowed but are left to be in a natural state where no other assets are adversely affected. This will encourage natural ecosystem regeneration and provide habitat for our native grassland species.

- Trial alternative methods to revegetation techniques to reduce the requirement for herbicides during plant establishment. Trials will include different mulching products, as well as sowing of annual grasses and clover once the site has been cleared of weeds for planting. These two methods will help prevent further weed infestation through the removal of their preferred habitat.





ORGANIC AGRICHEMICALS

Organic agrichemicals are often perceived as an environmentally friendly way of controlling plant and animal pests. The toxicity, required concentrations and frequencies of use are often not considered from either an environmental or economic aspect.

As mentioned above, trials of organic herbicides have been undertaken in Waitakere parks with results that show that organic sprays can be:

- ☒ not as effective as traditional herbicides. The organic sprays do not often kill the plant, they only damage the surface leaves meaning the spray must be applied more frequently costing more money and requiring more chemical to be put into the environment;
- ☒ effective application techniques are required, and failure to follow strict application guidelines can lead to a poor strike rate or low kill rate;
- ☒ require high concentrations to control pests. Organic herbicides require higher concentrations than traditional herbicides to be effective requiring more chemical to be put into the environment;
- ☒ weather conditions are more pertinent to spray effectiveness with organic sprays than with traditional herbicides. The performance of organic herbicides is highly dependent on still, clear days. Organic herbicide applied on an overcast day without rain will not be as effective therefore requiring either repeated applications or limits the days when they can be applied. As Auckland is a region of a high proportion of overcast days there would not be enough time to manage all parks.
- ☒ highly scented and can adhere to skin and clothing causing discomfort. The resins and oils used in organic herbicides makes some of them highly pungent, and tacky. If any chemical touches clothing or skin it is very difficult to remove and uncomfortable for the contractor.
- ☒ More expensive than traditional herbicides. The higher frequency of application and concentrations required to achieve the same result as traditional herbicides means that the cost of using organic herbicides is prohibitive.

It is because of these findings that Waitakere City Council do not currently use organic herbicides to manage plant pests in Waitakere parks. The Council has a responsibility to rate payers to use rates money wisely, as well as consider the long term effects of herbicide use. However, consideration will be given to new improved products as they enter the market.

EDUCATION

The Auckland Regional Council (ARC) is responsible for the region's coasts, beaches and natural environment. The role of the ARC is to protect the region's air, soil and water resources from pollution and to ensure their sustainable use as Auckland develops and its population grows.

The ARC is also a major land owner with responsibility for the management of the Waitakere Ranges Regional Park.

COMMUNITY INVOLVEMENT

Community involvement in weed removal on parks is undertaken using manual methods only; volunteers in community weed programmes do not use agrichemicals for safety reasons unless they have Grow Safe training. Landowners surrounding parks are encouraged to co-ordinate weed removal from their sites with the park operations. The community can participate through local community groups, Project Twin Streams, Clean Stream Waitakere, Ecomatters Trust and The Weedfree Trust.

Community involvement is encouraged as a form of education, and to increase local resident's ownership of their neighbourhood area. Community involvement can also play a key role in the maintenance of public land such as roadside berms and esplanade areas. Community involvement can also be more effective than contractors where local residents see the site daily and can keep an eye on new weed infestations.

Education of community members will also encourage reports to be made to key council staff when issues arise that might otherwise go unseen. Waitakere City Council aims for a collaborative approach to taking care of the city, with a large proportion of Waitakere in private ownership.

GARDENS AND AMENITY AREAS

The objectives of garden and amenity area vegetation management are:

- Provide a garden that is visited regularly or seen frequently with high amenity values;
- Maintain visual amenity;
- Maintain aesthetic appeal;
- Maintain planted beds (i.e. remove all weeds);
- Maximise asset life/minimise renewal costs;
- Reflect local culture;
- Provide cultural resources (i.e. harvestable materials);
- Maximise the habitat values and biodiversity within the amenity context which includes soil and its health; and
- Maximise ecosystem services.

Gardens and amenity areas are all managed in the same way apart from:

- Where a park or garden borders onto a school or preschool the contractor must only apply agrichemicals outside of school hours and only after consultation with the principal or manager.

The challenges of garden and amenity area management are:

- Require intensive management;
- Regular visits, weekly or fortnightly;
- Highly visible to public;
- In high profile areas;
- Often in roadsides or within lanes which require limited maintenance times and intensive traffic management; and
- Balancing the objectives of the areas, i.e. balancing the public's expectation of flower beds that also provide an ecosystem service.

Application of the Guiding Principles

Prevent

Maintain the plantings to prevent weed infestation such as applying mulch to restoration areas, and dense plantings for flower beds. Maintain the beds frequently until the plants grow to cover the soil, then maintenance can be less frequent.

Replace

Manual methods are the first choice for high frequency maintenance gardens and amenity areas (G1 and G2). However, the current contracts do not specify the method of weed control. When contracts are next reviewed more detail will be specified as to the method of pest management in these high frequency maintenance areas.

Amenity gardens shall include plant species that require little watering, little maintenance and are fast growing in order that the soil surface is covered quickly. The use of these plants will ensure that good land management is practiced to replace the need for agrichemical use.

Reduce

Use manual methods in the first instance for all high frequency maintenance amenity areas.

Stipulate manual methods in the G1 and G2 garden maintenance contracts. Ensure best practice guidelines are being followed by all contract staff to ensure that any agrichemicals are being applied in the most effective and efficient manner.

Respond

Research new techniques for visual and amenity garden design and maintenance in order to reduce maintenance frequencies and costs. Monitor current contract efficiencies and seek contractor feedback about how improvements to the maintenance schedules can be made.

Encourage contractual innovation, and respond to suggestions and advice from expert contractors engaged in the field.





ECOLOGICAL AREAS AND REVEGETATION SITES

The objectives of ecological areas and revegetation site management are:

- Provide a park that protects and maintains biodiversity and ecological values, with reduced visitation and use;
- Maximise asset life/minimise renewal costs;
- Reflect local culture;
- Provide cultural resources (i.e. harvestable materials);
- Maximise ecosystem services;
- Eradicate environmental weed species to prevent transfer to other sites;
- Protect sites from infestation by environmental weed species; and
- Provide ecosystem resources.

The challenges of ecological areas and revegetation site management are:

- Sites are not visited often and new weed incursions may not be seen immediately;
- Access is often difficult, i.e. through bush or with steep topography
- These parks often border other bush properties where pest re-infestation can occur quickly; and
- Waitakere City Council has a responsibility to control pests on these parks to protect neighbouring properties; and
- A lot of coordination is required during periods of weed removal with neighbouring land owners to ensure re-infestation likelihood is reduced.

Application of the Guiding Principles

Prevent

Areas that have undergone weed removal are to be revegetated to reduce the opportunity for more weeds to establish. Planting and mulching will reduce weed infestation potential and regular maintenance until a canopy is formed is essential.

Replace

Replace existing agrichemicals with least toxic effective products as they have become available. Employ best practice for restoration, and ensure that if any agrichemicals need to be used that the most effective and efficient methods are used.

Reduce

Undertake pest control in accordance with the decision tree in Section 5.1. Employ direct application methods (e.g., cut and stump painting, spot spraying, drill and inject) instead of foliar spraying wherever possible to minimise the volume of agrichemical used and non-target effects.

Respond

Enable community involvement at the manual methods level of weed control for ecological areas in particular, and encourage long term "ownership" of sites for maintenance. Undertake education of local land owners to help improve pest identification and control methods. Research new techniques for restoration planting and maintenance, as well as pest control.



SPORTSFIELDS

The objectives of sportsfields vegetation management are:

- Provide a park that has excellent sports facilities that can be used frequently and for all of the year;
- Provide a sports park that can be used by many different sport types;
- Maintain good playing surfaces appropriate for their use/relevant code;
- Maximise asset life/minimise renewal costs; and
- Reflect local culture.

The challenges of sportsfields vegetation management are:

- Infestation of broadleaf weeds including Onehunga weed;
- Infestation of paspalum, nutgrass and *Poa annua*, all of which affect suitability for play as well as appearance;
- Sand-based sports fields need to be maintained in a weed free condition at all times;
- Sports fields require high maintenance currently which is expensive and requires park closures;
- Presence of worms that destroy the surface of the grass fields;
- The need to use grass species that are tolerant of drought conditions and will not become stressed in summer leading to disease; and
- Parks must be maintained yet remain open to the public for use (parks have a mandatory eight week closure for scheduled maintenance).

Application of the Guiding Principles

Prevent

The use of invasive and dominant grass species such as warm season grasses can reduce the requirement for agrichemical use and land management. These grasses are drought tolerant and are not stressed under drought conditions, therefore are more resistant to disease. Their dense adventitious roots create barriers to worm movement, and their growth pattern reduces the incidence of weed seeds hitting the soil.

Research and trial new methods for sustainable management of parks to reduce the need for agrichemicals completely.

Replace

Where warm season grasses cannot be sown then best practice needs to be used to manage the land appropriately to reduce agrichemical demand. A variety of grasses and broadleaf weeds are controlled by annual application of selective agrichemicals. No alternative practices have been trialled but the aim is to use the least toxic product that will do the job required.

Reduce

Seek advice and experiences from other Councils as to how they manage sports fields and what land management techniques they use to reduce maintenance costs. Through the best use of grasses and prevention, agrichemical use should be reduced.

Respond

Take note of the land management techniques that other land managers use and change our management practices to incorporate their practices. Trials may need to be run to test different practices in Waitakere conditions, and monitoring of the way that our sports fields respond to this treatment needs to be recorded. Signs will be posted at main entrances and locations where agrichemical spraying is being carried out in reserves. Signs are to remain until the stand-down period has lapsed.



ROADSIDES

Roadsides include the berm and the table drains where they are present. Berms extend from the carriageway to the property boundary, within the road designation. The objectives of roadside vegetation management are:

- Provide a reserve that is free from pests, that provides for road safety, and that does not pose a fire risk to surrounding land owners;
- Protection of the road asset (preventing plants from causing damage to the seal, footpaths, kerb and other features or furniture of the carriage way or berm);
- Flood mitigation (preventing blockages in the channels that carry stormwater);
- Control of legally declared pest plants and other environmental weeds;
- Reducing fire risk (achieved by cutting long dry grass and preventing growth of pampas grass);
- Safety (removal of overhanging plants and maintenance of sight lines for drivers where plants or growth patterns cause safety to be compromised); and
- Threatened species protection (roadsides provide a particular habitat required by some species).



Roadsides are all managed in the same way apart from:

- Berms that are within the No Spray Register addresses. In these instances land owners are required to maintain their berms and are advised 24 hours before spraying is to occur on their road.
- Schools and preschools are to have berms treated with weed eating and edges of grass four times a year, with agrichemical methods used only for cracks, kerbs, gutters and paved areas twice a year. Any agrichemical application must be conducted outside of school hours such as school holidays and weekends.

The challenges of urban roadside vegetation management are:

- Signage for vehicles spraying roadsides
- Timing of agrichemical application to avoid high use periods e.g. children walking to and from school
- No other effective methods of controlling weeds growing in pavement cracks other than using agrichemicals
- Spread of weeds from adjacent private property

Application of the Guiding Principles

Prevent

Removing possible habitat for weed establishment by regular road sweeping so that silt and debris is unable to build up in the channels.

Regular maintenance of footpaths and channels so that holes and cracks where weeds can establish are sealed.

Establish grass-lined swales that have dense plantings of natives and grasses that only require mowing to maintain.

Replace

Maintain road berm flail mowing for rural roads in its present regime to prevent the spreading of weeds and maintain the native species cover. Flail mowing cuts vegetation back to a minimum of 30cm in height, enabling a vegetated cover to remain to help exclude weed establishment.

Hydroseed bare banks with native plant seed so reducing the opportunity for weeds to establish.

Trials are currently being carried out using non-invasive short growing species to establish in water tables to reduce the need for spraying.

Reduce

Spot spray and stump treat for weeds on footpaths.

Respond

Maintain the No Spray Register. Encourage and support community initiatives such as Neat Streets.

DRAINAGE RESERVES, WATERCOURSES AND STORMWATER MANAGEMENT DEVICES

Many plant pests that are within drainage reserves, watercourses and stormwater management devices are aquatic weeds that can survive within the water column and in damp terrestrial areas.

Control of these plant pests is highly specialised and requires careful consideration of the agrichemicals used as many are ecotoxic to other aquatic organisms. Glyphosate and Garlon 360 are two agrichemicals that are approved within the region for use on and around waterways as they are not ecotoxic to aquatic fauna.

Control of aquatic weeds also requires a strategic approach as any area treated can easily be re-infested if plant material is present upstream. In addition, any chemical used must be applied directly to the pest plant and not in excess to avoid chemical being washed downstream where its ultimate destination is unknown.

The area of treatment for drainage reserves, watercourses and stormwater management devices varies, but typically extends onto land to where the water level would come to in a 1 in 100 year storm event. The objectives of waterway vegetation management are:

- Maintain a clear passage or treatment volume for water management;
- Maintain habitat for native plants and animals;
- Flood mitigation (preventing blockages in the channels that carry stormwater);
- Control of legally declared pest plants and other environmental weeds;
- Remove barriers to fish migration; and
- Prevent any aquatic weeds spreading into terrestrial areas.

Waterways are all managed in the same way with the same care and requirements for the type of chemical used and the method of application. Where Glyphosate or Garlon 360 are not appropriate methods of control, resource consents often need to be sought from the Regional Council prior to treatment.

The challenges of waterway vegetation management are:

- Often aquatic plants are fully submerged meaning chemical must be sprayed across the surface of the water;
- Many agrichemicals are ecotoxic to aquatic organisms;
- Agrichemical that is not absorbed into the plant can travel downstream, affecting other non-target plants including natives;
- Untreated plant material upstream can re-infest a treated area;
- Flood waters can wash pest plant material from the land into the waterway, re-infesting an already treated area;
- Use of agrichemicals in waterways can affect downstream water users such as farmers for irrigation purposes, and residents for recreational purposes; and
- The removal of pest fish using chemicals is difficult as any chemicals used can affect native fish at the same time.

Application of the Guiding Principles

Prevent

Removing possible habitat for weed establishment by densely planting all riparian margins with appropriate plant species.

Site stormwater management devices outside of the stream to prevent infestations from upstream plant sources.

Educate residents not to dispose of their pet fish into streams and ponds.

When managing pests within waterways, work from the top of the catchment down to ensure there are no new pest sources that can re-infest an area.

When controlling aquatic pest animals and plants the preferred method for control is manual instead of chemical methods.



Replace

Ensure that the most effective agrichemical, yet one that is specifically developed for waterways, is used in these instances.

Maintain riparian margins effectively by replacing plant pests with desirable plants. Also, plant in such a way that no new pest incursions can occur.

Reduce

When applying agrichemical to a waterway, make sure that all upstream water is diverted around the area of work, lower the water level in the work area, apply the agrichemical and wait the specified time prior to allowing water to flow back through the area.

Only use the correct amount of agrichemical and do not overspray to ensure that no un-used chemical travels further downstream.

Respond

Respond to calls when pests are noticed within waterways as fast action can prevent wider spread through the waterway network.

MONITORING

The Standard Specifications for Use of Agrichemicals in Waitakere City requires detailing all agrichemical use in spray sheets to be submitted weekly. This will enable the Council to measure and cost its use of agrichemicals, and for targets to be set to reduce this use.

Auditing of work in progress for compliance with the standards, and final effectiveness of weed control will be continued. Council will monitor all contracts that involve the use of agrichemicals to audit the use and effectiveness of products and methods.

Continuous development of new techniques and standards will continue, in partnership with Crown Research Institutes and industry.

It is also imperative that the implementation of this Policy is monitored to ensure that the goals and objects are being met. More detail will be developed around this issue through the development of the Implementation Plans.

ANIMAL PEST CONTROL

Animal pests such as possums, rats and rabbits are an historic and a modern threat to the health and sustainability of the Waitakere Ecosystem. Animal pests can predate on native vegetation, destroying bush areas and devastating revegetation attempts. Other animal pests, such as wild cats and stoats, can be voracious predators of our native animals, many of which have not evolved mechanisms to ward off these predators.

Control of animal pests is highly specialised and requires careful consideration of the methods used; many animal pest control methods are not specific to a certain pest and household pets and native animals can also be caught or poisoned. The most common methods for animal pest control are traps and poisons, with shooting used for larger animals such as pigs and goats.

Trapping and shooting are methods that are currently used in Waitakere in a number of locations, by all landowners. Poison is less common in our natural areas, however the Auckland Regional Council actively uses possum and rat poison on regional park land.

Poisons are often a cost effective, and effective method of control, however the location and shape of bait stations, and the type of poison used can result in adverse environmental effects if not used and disposed of properly.

The objectives of pest animal control are:

- Reduce competition on food sources with native animals;
- Reduce predation on native animals and plants;
- Improve fledgling rates of native birds; and
- Improve native revegetation plant survival rates through reduction of browse.

All landowners that wish to use baits and poisons on public land for pest animal control must obtain approval from Waitakere City Council Parks department prior to commencement of works. The Use of Baits and Poisons Approval Form is provided in Appendix 1.

A pest animal checklist has been established to run through prior to using baits and poisons in Waitakere:

- ☒ Baits may only be administered in appropriate bait stations;
- ☒ Bait may only be used in areas of native vegetation;
- ☒ Bait may only be used in areas where domestic, non-target animals will not be at risk of consuming bait;
- ☒ All dead carcasses must be removed from the view of the public, and disposed of in a way that no contamination from the carcass can occur to domesticated animals or non-target species.
- ☒ Baiting must be administered and disposed of in accordance with manufacturer's instructions;
- ☒ Bait may only be used by a person holding a controlled substances licence issued by a test certifier who has been approved;
- ☒ Signage must be posted at all entry points to the baiting area; signage must remain for twelve months after baits have been removed or destroyed for public areas, or nine months for non-public areas;

Baits may only be used where all of these criteria can be met, and where the use of trapping is considered impracticable due to budget and resource restrictions.

Application of the Guiding Principles

Prevent

Support the restriction of the dumping and abandonment of animal pests as listed in the RPMS.

Use trapping where possible and practicable, being cognizant of the cost and resource comparisons required to undertake a comprehensive trapping programme.

Educate residents about the damage that animal pests can do to our natural areas and ways to prevent their spread.

Provide community assistance for pest animal control to encourage neighbouring landowners to control pests on their properties, removing populations for re-invasion.

Replace

Ensure that the most effective agrichemical, yet one that is specifically developed for the target animal pest, is used in these instances.

Choose agrichemicals that are non-bioaccumulative, or have the lowest bioaccumulation rates using the current technologies.

Support further research into new animal pest control techniques.

Reduce

Only bait after thorough monitoring to ensure the correct pest is targeted, and the correct control method is used.

Place and store baits in a way that ensures their longevity and shelf life. Choose bait forms that have a longer shelf life, and in a form that animals cannot hoard but must eat at the bait station.

Bait only based on life cycles of the target pest, to ensure that bait is not used all year round but at the most effective times.

Respond

Respond to calls when pests are noticed being dumped and abandoned as fast action can prevent wider spread through the green network.

Respond to calls notifying Council when pest animals are present in certain areas, particularly where these sightings are close to high conservation value areas, or areas with threatened species.

7. Information Available

The contracts that Council currently holds for the control of plant and animal pests require the contractor to keep records of:

- o The agrichemical used;
- o The amount used per day;
- o The weather conditions;
- o The type of area that was being treated;
- o The types of plants that were controlled;
- o New sightings of pest plants;



In order to manage the methods, frequencies and concentrations of agrichemicals applied in Waitakere it is important to maintain an Agrichemical Use Database. This database can compile data from the various contracts within Council that use agrichemicals and monitor the usage over time.

Analysis of this database can be used as a monitoring tool to check the implementation of this Policy, as well as inform further amendments where improvements could be made.

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Expansive view Henderson Creek
Pukeko, Orangihina/Harbourview.



Waitakere City Council
Te Taiao o Waitakere

Waitakere
Agrichemical Reduction Policy
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